The Energy Transition Careers Compass
A project of the European Youth Energy Network

Grow the energy transition workforce and help us empower youth to discover careers in the sector

[ Meet the online tool building more energy transition careers ]

date: November 2023
Summary

The ETCC at one glance

The Energy Transition Careers Compass (ETCC) is EYEN's new online tool mapping job roles across the energy transition job ecosystem. It empowers youth to discover careers in the sector, closes skills gaps and grows the energy transition workforce. And it makes paths beyond those traditionally associated with the energy transition visible. The project was kicked off with a questionnaire mapping the current situation by collecting job roles, along with responses to questions like: ‘What are the skills required for your job?’

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What you will find in this booklet — explaining the background & methodology of the ETCC and its survey, ways to get involved and more.

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Chapter 1 | Presentation of the authors & partners

**EYEN**

The **European Youth Energy Network (EYEN)** is the international non-profit placing youth at the heart of the European energy transition by reshaping youth engagement, streamlining the voice of young people and creating the spaces for them to take action — spaces like its flagship event EYEF. EYEN unites youth-led organisations in Europe with a focus on energy-related initiatives, now standing at 12 members.

We are deeply passionate and well-versed in both the European energy sector and youth engagement. In 2023, our activities included founding new task forces for focused research, advocacy and solution-building on topics of pressing relevance for youth in the energy transition; organising the second European Youth Energy Forum (EYEF) and working on the implementation of proposals from the position paper of the first forum; joining international events and much more.

The **COP28 Task Force**, the EYEN team behind the Energy Transition Careers Compass, is one of the projects implemented. The **Young Energy Consumers Task Force** makes young energy consumers more visible in EU policy, between shedding light on their challenges and providing success examples for their inclusion (now with a thematic focus on energy poverty). The **European Youth Energy Forum** creates the space for youth to voice its opinion and connect with energy stakeholders towards concrete action. In 2023, the 40 selected participants came up with 6 detailed implementation plans for proposals on how to improve youth engagement in the European energy transition. Spanning the sectors of policy-making, education and the private.

The seeds for EYEN were planted by three Europeans who travelled as youth delegates to a big sustainable energy summit in Canada — the 10th **Clean Energy Ministerial** and its youth programme organised by Student Energy in 2019. There they identified a lack of meaningful youth participation in high-level debates and ministerial meetings concerning the European energy transition. Upon returning to Europe, they decided to create an organisation and start ensuring youth engagement across European events — in close conversation with the European Commission and other relevant actors.
We are a volunteer group of six young changemakers hailing from various corners of Europe, united by our shared passion for and involvement in the energy sector. Our backgrounds are as diverse as they come, including engineers, lawyers, students of science and public policy, and international affairs enthusiasts. What binds us together is our collective interest and specialisation in the ever-evolving world of energy.

Our team’s professional experience ranges from just a month to five years, offering a rich tapestry of insights into the unique needs and aspirations of young individuals in the realm of energy. This wide spectrum of experience equips us with a well-rounded perspective, ensuring that we address the multifaceted challenges and opportunities within the energy transition.

But we’re more than just our professional backgrounds. We’re a group of curious, open-minded, and culturally diverse individuals who are passionate about making a difference in the world of energy. Our commitment to this project is fueled by our shared belief that the energy transition is not just a technological or scientific challenge; it’s a social and human one.

Meet the European team in its project roles and professional areas of expertise →
Chapter 1 | Presentation of the authors & partners

Our Partners

During our endeavour to create a comprehensive resource for the Energy Transition Careers Compass, we’ve been incredibly fortunate to collaborate with organisations that share our vision for youth empowerment in the energy sector. Our partners have played a pivotal role in supporting our initiative:

- Tech Partner: Green Jobs Tree
- COP18 Youth Association Partner: YES-Europe
- International Organisations on SDG7: SE4All
- Youth Associations: Youth4Climate | Student Energy | SDG7 Youth Constituency

Chapter 2

Timeline of the COP28 Task Force

Learn about the key milestones by the volunteering team of young changemakers, leading up to COP28.

1. COP28 Task force Launch
   - March '23

2. Collaboration with youth lead organizations and potential knowledge partners
   - July 2023

3. May '23 Partnership with Green Jobs Tree to deploy the Energy Transition Careers Compass

4. September '23 Launch of the ETCC survey - presentation at the Youth4Climate event in Rome, Italy

5. Presentation at EC and EESC ReskillEU Conference
   - July 2023

6. December '23 COP28 - official launch of the platform
   - Irene Pavilion
   - UNESCO Pavilion
   - Finnish Pavilion
   - Portuguese Pavilion
Chapter 3  Why do we need an Energy Transition Careers Compass?

In a world grappling with the urgency of the climate crisis, the creation of the Energy Transition Careers Compass is not just a response to the changing times; it's an imperative. The team behind this platform knows this journey all too well, since we've walked the path of renewable energy careers ourselves. We've shared the same aspirations and ambitions as many aspiring professionals today, and we vividly remember the moments of uncertainty and doubt. Questions lingered, and answers weren't always easy to come by. We often wished for a guiding light, a resource that would make the journey a bit clearer.

Recent insights from the World Energy Employment Report 2023 by the International Energy Agency (IEA) underscore the escalating demand for skilled labor in the clean energy sector. Since 2019, the energy industry has seen significant growth, primarily driven by clean energy advancements, adding 4.7 million jobs and surpassing fossil fuel employment.

The surge in clean energy jobs is largely concentrated in five key sectors: solar photovoltaics (PV), wind energy, electric vehicles (EVs) alongside with battery manufacturing, heat pumps, and the mining of critical minerals. These sectors collectively employ about 9 million workers, with solar PV being the largest employer, accounting for approximately 4 million jobs. This trend reflects a global shift, as clean energy roles have been the primary catalyst for job growth in the energy sector across various regions. This is also reflected by a 43% rise in annual renewable energy investments, reaching USD 499 billion in 2022 (IRENA, 2023).

However, this positive growth trajectory is not without its challenges, most notably the acute shortage of skilled labor within the sector. The clean energy industry, more so than many other sectors, demands a workforce possessing advanced skill levels. The expansion of clean energy is intricately linked to the creation of jobs, which is in turn influenced by factors such as geographic manufacturing locations, installation capacities, and the availability of raw materials. Projections based on current policies anticipate the creation of 8 million clean energy jobs globally by 2030, offset by a reduction of 2.5 million fossil fuel jobs, yielding a net gain of 5.7 million jobs. In scenarios aiming for net-zero emissions, this growth could add up to 17 million jobs by 2030.

The Energy Transition Careers Compass emerges as a crucial resource amid this transformative landscape. It recognizes that the accelerating energy transition will generate millions of new job opportunities globally. Our mission is to assist the younger generation in comprehending the evolving renewable energy sector, providing them with a structured resource to navigate the vast array of opportunities.

As clean energy technologies mature and become more sophisticated, the demand for a skilled workforce intensifies. The Energy Transition Careers Compass aims to simplify this journey, ensuring that young professionals can make informed decisions about their education and career paths. In a world where the pace of the energy transition is key to mitigating climate change, providing clarity and guidance to the next generation of clean energy professionals is not just essential; it’s imperative for a sustainable future.
Chapter 4
Main Goals of Energy Transition Careers Compass

1 Empowering the Next Generation
The climate crisis is one of the most pressing challenges of our time, and its consequences will be borne most heavily by the next generation. Young people are motivated, innovative, and possess unique skills that make them potent agents of change. The primary goal of the Energy Transition Careers Compass is to empower these young individuals by providing a comprehensive and structured resource tool that helps them navigate the myriad of opportunities in the clean energy sector.

2 Bridging the Skills Gap
A significant skills gap exists in the clean energy workforce, causing uncertainty for many aspiring professionals. The Energy Transition Careers Compass aims to bridge this gap by categorizing over 100 jobs from a youth, global south, and global north perspective. This comprehensive categorisation, classified by streams and disciplines, along with levels of experience, will provide a roadmap for young individuals to confidently make informed decisions about their education and career paths.

3 Facilitating Transition for Professionals
The transition to clean energy is not just a challenge for the next generation, but also for existing professionals, especially those in the oil and gas sector. The Energy Transition Careers Compass will provide insights into the upskilling and reskilling needs required to transition to a clean energy job. By highlighting the skills and experiences needed for various roles, it will help professionals from other sectors to identify the gaps in their skill sets and take proactive steps to bridge them.

4 Promoting Inclusivity
The involvement and leadership of youth are pivotal for a just and inclusive sustainable energy transition. The Energy Transition Careers Compass emphasises the essential roles played by civil society, NGOs, and advocacy in the industry. By highlighting these roles, the resource aims to inspire a more diverse group of young individuals to pursue fulfilling and impactful roles in the energy transition sector.

5 Fostering Global Collaboration
The global community faces a common enemy in the climate crisis, and overcoming it requires a united front. The Energy Transition Careers Compass, by categorising jobs from a Global South and Global North perspective, aims to foster global collaboration by highlighting the interconnectedness of the energy transition sector worldwide.

Conclusion

A project of the European Youth Energy Network
Conclusion
The Energy Transition Careers Compass is more than just a resource; it is a tool for empowerment, a bridge to close the skills gap, a means to facilitate the transition for professionals from other sectors, a chance to promote inclusivity, and a catalyst for global collaboration. By providing young individuals and existing professionals with the clarity they need to navigate potential career paths, it will guide them towards fulfilling and impactful roles in the energy transition sector, ultimately contributing to a cleaner, greener future for all.

Chapter 5
Presenting the Energy Transition Careers Compass

How is it organised & how to use it?

The “Energy Transition Careers Compass” is a comprehensive digital tool for individuals exploring career opportunities within the clean energy sector. With the completion of our extensive questionnaire and the collaboration of international partners, we’ve compiled a wealth of information on various professions and their associated skills.

This user-friendly platform is designed to cater to a diverse audience. For those well-versed in the industry, it offers advanced filtering options, allowing users to navigate the sector based on the familiar distinctions of Upstream, Midstream, and Downstream career paths.

However, we also recognize that not everyone is intimately acquainted with the clean energy sector. To address this, our platform features filters based on skills, which enables individuals to receive career suggestions tailored to the specific skills they provide. This innovative feature opens the door to newcomers who want to explore the world of clean energy based on their strengths and interests.

We believe this approach offers a dynamic and inclusive way for individuals to explore their career options in the clean energy field, regardless of their familiarity with the sector. This is just one of the many ways we aim to support and empower those seeking to engage with the green energy transition. We invite you to explore the platform yourself and discover the vast array of opportunities that await.

The ETCC data relies on a precise questionnaire, and as such, the technologies that our platform incorporates are delimited by it. Our platform primarily includes solar energy, wind, hydropower, energy efficiency, and grid operation, reflecting the present distribution of the workforce as disclosed by the survey (and shown in graph 5).
Chapter 5
Presenting the Energy Transition Careers Compass

It also comprises energy storage, carbon capture, and nuclear energy, which, though critical, are less widespread. The ETCC is an adaptable instrument, engineered to keep up with advances in the industry, and its extent will constantly correspond to current data and up-and-coming developments in the energy sector.

Which information can be found on the platform?

<table>
<thead>
<tr>
<th>categories of skills:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business skills</strong></td>
</tr>
<tr>
<td>These skills are related to the strategic, managerial, economical and organizational aspects of renewable energies.</td>
</tr>
<tr>
<td>- Business development</td>
</tr>
<tr>
<td>- Innovation</td>
</tr>
<tr>
<td>- Budgeting</td>
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<tr>
<td>- Project management</td>
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<tr>
<td>- Operation management</td>
</tr>
<tr>
<td><strong>Soft skills</strong></td>
</tr>
<tr>
<td>These skills primarily focus on interpersonal and communication abilities that enable effective collaboration, understanding, and interaction with others.</td>
</tr>
<tr>
<td>- Communication</td>
</tr>
<tr>
<td>- Advocacy</td>
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<tr>
<td>- Colleagues</td>
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<tr>
<td>- Critical thinking</td>
</tr>
<tr>
<td>- Creativity</td>
</tr>
<tr>
<td>- Networking skills</td>
</tr>
<tr>
<td><strong>Technical skills</strong></td>
</tr>
<tr>
<td>These skills encompass the specialized knowledge and expertise required to navigate and work with renewable energy technologies and systems.</td>
</tr>
<tr>
<td>- Technical analysis</td>
</tr>
<tr>
<td>- Engineering</td>
</tr>
<tr>
<td>- Monitoring and evaluation</td>
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<tr>
<td>- Accounting</td>
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</tbody>
</table>

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A research project of: Energy Transition Careers Compass

With the support of: European Youth Energy Network

[tech partner: Green Jobs Hub]

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Screenshots taken from the mobile version.
Chapter 5
Presenting the Energy Transition Careers Compass

How to add information on your job roles?

We want to hear your voice in shaping the future of the sustainable energy sector. Your perspective is crucial for creating an up to date Energy Transition Careers Compass!

Invest 5min of your time in our online survey:

bit.ly/46eENIL

Your experience and insights are fundamental to keeping the platform updated, comprehensive, and aligned with the ever-evolving challenges, as well as with innovations and emerging opportunities in renewable energy and energy transition.

Data analysis from the ETCC questionnaire

As a first step building block of the Energy Transition Careers Compass, the team launched a survey disseminated through EYEN’s channels, network and various partners. This section includes key insights based on a sample of 162 responses from professionals worldwide who generously contributed their perspectives to enrich the data on our platform. They allow us to extract meaningful trends and patterns to guide the development of a more inclusive and effective resource for navigating careers in the energy transition. An overview of the responses will be included on the ECC website; the survey remains open.

Graph 1

- Predominant representation from Europe: 64%
- Localisation of expertise, with respondents being mostly employed within their continent of origin: 9%
- Deeper understanding of regional intricacies vs potential lack of cross-pollination: 2%
Recognizing and addressing the barriers impeding gender-inclusive participation in every field is essential for fostering a more equitable and diverse workforce.

Technology

- **Most represented workforce:** solar > hydrogen > wind technologies
- **Least represented workforce:** less ubiquitous sources of renewable energy, including but not limited to grid operations, Carbon Capture Usage (CCUS), as well as hydropower and nuclear

*The "All" category encompasses roles that exhibit a broad regular work across diverse technologies. It shows up as the dominant category, reflecting positions in policy, education, and related fields that navigate a spectrum of technologies. "All" acknowledges the increasing demand for professionals capable of addressing diverse challenges in the dynamic landscape of the energy transition.*
Chapter 5
(Data analysis continued)

Education Level

- Bachelor's: 5.4%
- High School: 21%
- Master's: 1.8%
- PhD: 71.9%

Age

- 18-25: 81.9%
- 31-35: 11.0%
- 36-40: 1.8%
- 40+: 5.4%

Skills (Technical, Business & Soft Skills)

- Project Management
- Critical thinking/analytical skills
- Knowledge of Solar/PV systems
- Energy Literacy
- Data Analysis
- Engineering
- Communication
- Leadership
- Policy/Policy Analysis
- Energy Efficiency Knowledge
- Research Skills
- Leadership Skills

Methodologies on skills: Aken and Michalisin's skill categorisation framework; Burger et al.'s definition of skills*

- Knowledge of Solar/PV systems
- Energy Literacy
- Data Analysis

Jobs in the energy transition cover a broad spectrum from STEM roles, like engineering, to consulting, policy & marketing; yet, our questionnaire responses leaned more towards STEM.

- Most prominent skill: project management (in 38% of questionnaire responses), followed closely by critical thinking and analytical skills. Additional noteworthy skills: solar/PV-knowledge, leadership, policy analysis, communication, engineering and data analysis.

- Women tended to place a greater emphasis on soft skills compared to men, which could be attributed to several factors (gender stereotypes, gender gaps in education, different access to career opportunities).

* [definition of a skill] "the ability to perform a task well, commonly acquired through (on-the-job) training and/or experience"
Chapter 6
Next Steps

As we envision the future of the Energy Transition Careers Compass project, our commitment to empowering youth within the energy transition remains unwavering. While we embark on this transformative journey, we have outlined several exciting add-ons that will be implemented in the upcoming phases, expanding our project’s scope and impact.

1. Concrete Job Opportunities in Partnership with Renewable Energy Companies

In the near future, we plan to create tailored job opportunities in collaboration with prominent renewable energy enterprises. These opportunities will offer young individuals a direct path into the energy transition workforce. However, it’s important to note that this addition will be introduced in subsequent project phases and not immediately.

2. Tailored Trainings for Jobs & Skills Enhancement

Our dedication to equipping the youth with the right skills and knowledge remains paramount. Hence, we have plans to introduce specialised training programs related to energy jobs and skills. These training modules will enable young enthusiasts to acquire the competencies needed to pursue their dream careers. Please be aware that this training feature will be part of our future development and is not part of our current implementation.

3. Informative Conferences & Knowledge Enrichment

In the forthcoming phases of the project, we will introduce conferences and events focusing on the energy sector. These gatherings will serve as platforms for enriching knowledge and staying updated on the latest innovations in the industry. However, it’s essential to emphasise that this addition will be implemented in the future and is not currently available.

Now, it’s your turn! →
Chapter 7
Get Involved! Your Input Matters

We recognize the importance of collaboration and welcome feedback and suggestions from our community. If you have ideas, whether they are improvements to our existing plans or entirely new concepts, we are open to hearing them. Your input is invaluable as we strive to create a dynamic and comprehensive resource for the energy transition sector. Feel free to share your thoughts and suggestions with us.

How You Can Help:

Students
Shape the future by sharing your perspectives, aspirations, and needs in the clean energy sector. Your insights fuel the platform’s relevance for the next generation.

Professionals
Contribute your expertise to enhance the platform’s accuracy and effectiveness. Share your experiences and insights to guide aspiring individuals in their career journeys.

Companies
Explore collaborative opportunities to support the platform’s growth. Your engagement can help ensure the resource remains accessible and beneficial to a wider audience. Also, consider contributing valuable industry insights and job opportunities to enrich the platform’s content.

NGOs & Associations
Join us in empowering the youth. Collaborate to ensure the platform reflects the diverse and inclusive nature of sustainable energy initiatives. We also seek partners for knowledge validation and information verification.

Want to be our knowledge partner?

Connect With Us: careerscompass@youthenergy.eu

Let’s Stay in Touch
Because the European Youth Energy Network has more to offer.

LinkedIn is the place to receive the most frequent updates on activities, positions & wider developments on the topic of youth in the energy transition.

Send us a mail at info@youthenergy.eu in case of questions, requests or offers of collaboration.

EYEN has a monthly newsletter...You can subscribe via the website at: youthenergy.eu/newsletter-eyen/

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